

Title (en)

METHOD OF AND CONTROLLER FOR HANDLING MEDIUM DEFECTS IN A DISC DRIVE SYSTEM

Publication

**EP 0127311 B1 19900314 (EN)**

Application

**EP 84302757 A 19840424**

Priority

US 49686383 A 19830523

Abstract (en)

[origin: EP0127311A2] A remapping technique for handling medium defects in a disc drive system is disclosed. Each surface on each disc is divided into a number of tracks with the corresponding tracks on all discs defining a cylinder. Each surface is further divided into a plurality of sectors. Each sector in each cylinder not having a defect is assigned a logical address in a predetermined order such that, as the discs rotate and as the head address increments within a cylinder, each succeeding defect-free sector within that cylinder has a logical address which is related by a predetermined algorithm to the logical address of the preceding defect-free sector. Defective sectors are labelled with an appropriate unique pattern in their headers so that they can be identified and distinguished from logical address numbers. A predetermined number of sectors at the end of each cylinder are allocated as spares, the number of spares being at least as large as the number of potentially defective sectors in a cylinder and the number of spares to which logical addresses are assigned being equal to the number of non-spare sectors which are defective. In using the technique, each defect-free sector in a cylinder is located and assigned its logical address. In transferring information, the header address of a sector in a cylinder held in a data buffer (29) is compared (33) with the logical address expected at that logical in a register (31). If the addresses match the data at that sector is transferred by sequencing logic (35). If the addresses do not match the header address at the next physical sector is compared with the expected address. The procedure is repeated until the address at a physical sector match with the logical expected address. However, if the sequence of mis-matches exceeds a predetermined number, counted in a counter (45), the sequencing operation is terminated and an error signal generated by a detector (47). The technique eliminates moving the heads radially inward or radially outward to spare stacks allocated for data belonging in defective sectors as in most prior art systems.

IPC 1-7

**G11B 5/09**

IPC 8 full level

**G06F 3/06** (2006.01); **G11B 20/10** (2006.01); **G11B 20/12** (2006.01); **G11B 20/18** (2006.01)

CPC (source: EP)

**G11B 20/1883** (2013.01); **G11B 2220/20** (2013.01)

Cited by

US5075804A; EP0414310A1; US4926272A; EP0256380A1; US4829388A; EP0243503A4; US4885735A; DE3704213A1; US4920528A; EP0606499A4; US5553045A; US6058085A; EP0167806A1; EP0195324A1; US4706136A

Designated contracting state (EPC)

DE FR GB

DOCDB simple family (publication)

**EP 0127311 A2 19841205; EP 0127311 A3 19861230; EP 0127311 B1 19900314**; CA 1246210 A 19881206; DE 3481659 D1 19900419; JP S6057429 A 19850403

DOCDB simple family (application)

**EP 84302757 A 19840424**; CA 454835 A 19840522; DE 3481659 T 19840424; JP 10354484 A 19840522